

5 THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

- 1 A device for the exercise of the musculature of the upper arm, the device comprising:
telescopically assembled co operating inner and outer tubular elements, each said
10 tubular elements having end closure means at their outer ends;
said outer tubular element including an inwardly projecting collar at its inward open
end; said inner tubular element provided with an outwardly projecting collar at its
inward open end; said collars co operating to prevent the withdrawal of said inner
tubular element from said outer tubular element when said tubular elements operate
15 telescopically;
said device moveable between a first state in which the telescopic elements are fully
extended and a second state in which the telescopic elements are compressible against
a bias inside the device to provide a resistance force to rotational movement about the
elbow of a forearm in a direction towards an upper arm of the same arm; wherein the
20 device is of a size which allows engagement of one end with a hand of a user and the
other end with an upper part of the same arm such that the user can exercise one arm
without use of the other arm.
- 2 A device according to claim 1 wherein said rotational movement extends between
25 the limits of approximately an angle of 90 degrees formed by the forearm and upper
arm and a smaller angle between said forearm and said upper arm limited by contact
between said forearm and said upper arm.
3. A device according to claim 2 wherein the bias is a compression spring which
30 naturally biases the telescopic elements to their maximum relative extent.

- 4 A device according to claim 3 wherein, ends of said spring act against said closure means to provide the bias to maximum extent.
- 5 A device according to claim 4 wherein said maximum extended position, is limited by contact between said collars.
- 6 A device according to claim 5 wherein said end closure means of said outer tubular member comprises an end cap having a threaded sleeve section which mates with a threaded portion at the end of said tubular element.
- 10 A device according to claim 6 wherein the end cap on the outer tubular element is removeable to allow access to an interior passage in said device which receives the spring.
- 15 A device according to claim 7 wherein, the level of force resistance exerted by the device can be adjusted by substituting one biasing spring with another of a different compression resistance.
- 20 A device according to claim 8 wherein said end closure means of said inner tubular member is provided with a threaded portion adapted to mate with an external thread on the outside of said inner tubular element; said threaded portion providing adjustment means to enable variation of length between said end closure means.
- 25 A device according to claim 9 wherein said end closure means of said inner tubular member includes a threaded socket; said socket adapted for the attachment of a resilient support pad adapted to fit against the shoulder or hand of a user.

- 11 A device according to claim 10 wherein, said end closure means at the outward end of said outer tubular element is provided with a piston rod extending from said end closure means substantially the length of said outer tubular member.
- 5 12 A device according to claim 11 wherein said piston rod terminates in a piston adapted for sliding in said inner tubular member.
- 13 A device according to claim 12 wherein the piston provides sealing of said telescopic elements.
- 10 14 A device according to claim 13 wherein the compression spring is installed between said end cap and the inwardly projecting collar of said inner tubular member.
- 15 15 A device according to claim 14 wherein, said inner tubular member includes an air flow control valve positioned at said outward end of said inner tubular member.
- 20 16 A device according to claim 15 wherein, said air control valve is adapted to variably restrict the rate of air flow from said inner tubular member when said piston is driven towards said outward end of said tubular member.
- 25 17 A device according to claim 16 wherein said end closure means are provided with resilient pads.
- 30 18 A device according to claim 17 wherein one of said end closure means is provided with strapping to secure the device to the wrist of a user.
- 19 A device according to claim 19 wherein the overall length of said device when said outer and said inner tubular members are in a fully extended position is within in the range of 130 to 180 mm.

- 20 A device according to claim 8 wherein said compression spring acts on a piston and piston rod coaxial with said tubular member so as to urge said piston and said piston rod into a maximum extended position.
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- 21 A device according to claim 20 wherein an installed length of said compression spring is adjustable so as to vary a compressive force exerted by said spring on said piston and said piston rod; wherein said installed length is the length of said spring when said piston and said piston rod are in said maximum extended position.
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- 22 A device according to claim 21 wherein said tubular member is provided with a shoulder yoke, to support said device at the shoulder of a user; and a wrist yoke at an outer end of said piston rod to provide support for said device at the wrist of said user.
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- 23 A device according to claim 22 wherein said shoulder yoke is provided with adjustment means adapted to vary the distance between said shoulder yoke and said wrist yoke.
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- 24 A device according to claim 23 wherein, said wrist yoke is provided with strapping means adapted to secure said yoke to the wrist of a user.
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- 25 A device according to claim 24 wherein spring compression loadings required to compress the spring are in the range of 11 to 15 lb per inch of compression.
- 26 A device according to claim 24 wherein spring compression loadings required to compress the spring are in the range of 17 to 21 lb per inch of compression.
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- 27 A method for the exercise of the musculature of the upper arm, using a device comprising : telescopically assembled co operating inner and outer tubular

elements, each said tubular elements having end closure means at their outer ends;

5 said outer tubular element including an inwardly projecting collar at its inward open end; said inner tubular element provided with an outwardly projecting collar at its inward open end; said collars co operating to prevent the withdrawal of said inner tubular element from said outer tubular element when said tubular elements operate telescopically;

10 said method comprising including the steps of; (a) exerting an axial load on the device to induce compression in the device; such that the device resists rotational movement of a forearm towards an upper arm of the same arm, said resistance force acting along the line between the shoulder and the wrist of a user; (b) relaxing said axial load on said device so that said device restricts the angle at the elbow of said user to an angle about or less than 90 degrees; (c) adjusting said device so that the resistance force is within the capacity of the user to overcome
15 by the rotational movement of the forearm towards the upper arm; said adjustment being effected by means of springs of varying spring rate or by means of varying the installed length of a compression spring; (d) repeated reciprocal rotational movements of the forearm towards the upper arm to exercise the arm of the user.